Monsanto

The Chemical Group
800 N. Lindbergh Boulevard
St. Louis, Missouri 63167
Phone: (314) 694-1000

November 4, 1992

Ms. Pat Nichols
USEPA, Region 7
WSTM Division/RCRA Branch
726 Minnesota Avenue
Kansas City, Kansas 66101

Re: HSWA Permit Number MOD004954111
Monsanto J. F. Queeny Plant

Dear Pat:

As required by IM-1 of the agency's September 17, 1992 letter, enclosed please find the analytical results from the soil sample collected from the former acetanilides production area on October 8, 1992. I've enclosed the Report of Results from Savannah Laboratories and Geraghty & Miller's validation memo. (Rather than creating a data table for the one sample, they simply marked up the report from Savannah.)

The alachlor concentration was 1.2 ppm. As we discussed on October 15, this is below the concentrations likely to be found in soils at the EPA-approved application rate. We would like to set up a meeting between toxicologists from the agency and from The Agricultural Group of Monsanto to discuss these results and the concentrations of alachlor in soils which would require further actions.

If you have any questions, please call me at (314) 694-6127. I'll call you next week to discuss these results and future plans.

Sincerely,

Jo Hanson

Jo Hanson
Project Manager

cc: Pat Hyland - G4WT
Jim Kilby - N3F

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

5102 LaRoche Avenue • Savannah, GA 31404 • (912) 354-7858 • Fax (912) 352-0165

LOG NO: S2-44967

Received: 09 OCT 92

Ms. Laurie Musiker
Geraghty & Miller, Inc.
125 East Bethpage Road
Plainview, NY 11803

CC: Ms. Jo Hanson

Project: SDG#GMQ020/Monsanto-Queeny
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED	SDG#
44967-1	LSS-1 (3-3.75')	10-08-92	GMQ020

PARAMETER	44967-1
Volatile Organic Compounds (8240)	
Acrolein, ug/kg dw	~~<28000~~ I
Acrylonitrile, ug/kg dw	<28000
Benzene, ug/kg dw	<700
Bromoform, ug/kg dw	<700
Carbon Tetrachloride, ug/kg dw	<700
Chlorobenzene, ug/kg dw	2100
Dibromochloromethane, ug/kg dw	<700
Chloroethane, ug/kg dw	<1400
2-Chloroethylvinyl Ether, ug/kg dw	<7000
Chloroform, ug/kg dw	<700
Dichlorobromomethane, ug/kg dw	<700
Dichlorodifluoromethane, ug/kg dw	<700
1,1-Dichloroethane, ug/kg dw	<700
1,2-Dichloroethane, ug/kg dw	<700
1,1-Dichloroethene, ug/kg dw	<700
1,2-Dichloropropane, ug/kg dw	<700
1,3-Dichloropropylene, ug/kg dw	<700
Ethylbenzene, ug/kg dw	<700
Bromomethane, ug/kg dw	<1400
Chloromethane, ug/kg dw	<1400
Methylene Chloride, ug/kg dw	<700
1,1,2,2-Tetrachloroethane, ug/kg dw	<700
Tetrachloroethene, ug/kg dw	<700

JB 11/2/92

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PARAMETER	44967-1
Toluene, ug/kg dw	<700
Trans-1,2-Dichloroethene, ug/kg dw	<700
1,1,1-Trichloroethane, ug/kg dw	<700
1,1,2-Trichloroethane, ug/kg dw	<700
Trichloroethene, ug/kg dw	<700
Trichlorofluoromethane, ug/kg dw	<700
Vinyl Chloride, ug/kg dw	<1400
Xylenes, ug/kg dw	<700
Surrogate - Toluene-d8 % Rec	92 %
Surrogate - 4-Bromofluorobenzene % Rec	103 %
Surrogate - 1,2-Dichloroethane-d4 % Rec	90 %
Date Analyzed	10.16.92

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44967-1	LSS-1 (3-3.75')	10-08-92	GMQ020

PARAMETER	44967-1
Pesticides/PCB's (8080)	
Aldrin, ug/kg dw	<2.2
alpha-BHC, ug/kg dw	<2.2
beta-BHC, ug/kg dw	<2.2
gamma-BHC, ug/kg dw	<2.2
delta-BHC, ug/kg dw	<2.2
Chlordane, ug/kg dw	<19
4,4'-DDT, ug/kg dw	<11
4,4'-DDE, ug/kg dw	<4.5
4,4'-DDD, ug/kg dw	<4.5
Dieldrin, ug/kg dw	<4.5
Alpha-Endosulfan, ug/kg dw	<4.5
Beta-Endosulfan, ug/kg dw	<11
Endosulfan sulfate, ug/kg dw	<18
Endrin, ug/kg dw	<4.5
Endrin Aldehyde, ug/kg dw	<22
Heptachlor, ug/kg dw	<2.2
Heptachlor epoxide, ug/kg dw	<4.5
Aroclor-1242, ug/kg dw	<90
Aroclor-1254, ug/kg dw	<90
Aroclor-1221, ug/kg dw	<90
Aroclor-1232, ug/kg dw	<90
Aroclor-1248, ug/kg dw	<90
Aroclor-1260, ug/kg dw	<90

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PARAMETER	44967-1
Aroclor-1016, ug/kg dw	<90
Toxaphene, ug/kg dw	<180
Alachlor, ug/kg dw	1200
Surrogate - Dibutylchlorendate % Rec	111 %
Date Extracted	10.12.92
Date Analyzed	10.14.92

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PARAMETER	44967-1	
BN-A Extractables (8270)		
2-Chlorophenol, ug/kg dw	<370	
2,4-Dichlorophenol, ug/kg dw	<370	
2,4-Dimethylphenol, ug/kg dw	<370	
4,6-Dinitro-2-methylphenol, ug/kg dw	<1900	
2,4-Dinitrophenol, ug/kg dw	<1900	
2-Nitrophenol, ug/kg dw	<370	
4-Nitrophenol, ug/kg dw	<1900	
p-Chloro-m-cresol, ug/kg dw	<370	
Pentachlorophenol, ug/kg dw	~~<1900~~	I
Phenol, ug/kg dw	<370	
2,4,6-Trichlorophenol, ug/kg dw	<370	
Acenaphthene, ug/kg dw	<370	
Acenaphthylene, ug/kg dw	<370	
Anthracene, ug/kg dw	<370	
Benzidine, ug/kg dw	<3000	
Benzo(a)Anthracene, ug/kg dw	<370	
Benzo(a)pyrene, ug/kg dw	<370	
3,4-Benzofluoranthene, ug/kg dw	<370	
Benzo(g,h,i)perylene, ug/kg dw	<370	
Benzo(k)Fluoranthene, ug/kg dw	<370	
bis(2-Chloroethoxy)methane, ug/kg dw	<370	
bis(2-Chloroethyl)ether, ug/kg dw	<370	
Bis(2-chloroisopropyl)ether, ug/kg dw	<370	

JB 11/2/92

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PARAMETER	44967-1
bis(2-Ethylhexyl)phthalate, ug/kg dw	<370
4-Bromophenyl-phenyl-ether, ug/kg dw	<370
Butylbenzylphthalate, ug/kg dw	<370
2-Chloronaphthalene, ug/kg dw	<370
4-Chlorophenyl-phenyl ether, ug/kg dw	<370
Chrysene, ug/kg dw	<370
Dibenz(a,h)anthracene, ug/kg dw	<370
1,2-Dichlorobenzene, ug/kg dw	<370
1,3-Dichlorobenzene, ug/kg dw	<370
1,4-Dichlorobenzene, ug/kg dw	<370
3,3'-Dichlorobenzidine, ug/kg dw	<740
Diethylphthalate, ug/kg dw	<370
Dimethylphthalate, ug/kg dw	<370
Di-n-butylphthalate, ug/kg dw	<370
2,4-Dinitrotoluene, ug/kg dw	<370
2,6-Dinitrotoluene, ug/kg dw	<370
Di-n-octylphthalate, ug/kg dw	<370
1,2-Diphenylhydrazine, ug/kg dw	<370
Fluoranthene, ug/kg dw	<370
Fluorene, ug/kg dw	<370
Hexachlorobenzene, ug/kg dw	<370
Hexachlorobutadiene, ug/kg dw	<370
Hexachlorocyclopentadiene, ug/kg dw	<370
Hexachloroethane, ug/kg dw	<370

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PARAMETER	44967-1
Indeno(1,2,3-cd)pyrene, ug/kg dw	<370
Isophorone, ug/kg dw	<370
Naphthalene, ug/kg dw	<370
Nitrobenzene, ug/kg dw	<370
N-Nitrosodimethylamine, ug/kg dw	<370
N-Nitrosodi-N-Propylamine, ug/kg dw	<370
N-Nitrosodiphenylamine/Diphenylamine, ug/kg dw	<370
Phenanthrene, ug/kg dw	<370
Pyrene, ug/kg dw	<370
1,2,4-Trichlorobenzene, ug/kg dw	<370
Surrogate-PHL % Rec	44 %
Surrogate-2FP % Rec	39 %
Surrogate-TBP % Rec	76 %
Surrogate-NBZ % Rec	24 %
Surrogate-2FBP % Rec	54 %
Surrogate-TPH % Rec	88 %
Date Extracted	10.12.92
Date Analyzed	10.14.92

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PARAMETER	44967-1	
Priority Pollutant Metals (6010)		
Antimony (6010), mg/kg dw	<5.6	J
Beryllium (6010), mg/kg dw	<0.56	
Cadmium (6010), mg/kg dw	0.68	
Chromium (6010), mg/kg dw	11	J
Copper (6010), mg/kg dw	17	
Nickel (6010), mg/kg dw	11	J
Silver (6010), mg/kg dw	<1.1	J
Zinc (6010), mg/kg dw	93	
Date Analyzed	10.12.92	
Arsenic (7060)		
Arsenic (7060), mg/kg dw	2.8	J
% R Post Digestion Spike (CL 75-125 %)	96 %	
Date Analyzed	10.12.92	
Lead (7421)		
Lead (7421), mg/kg dw	32	J
% R Post Digestion Spike (CL 75-125 %)	107 %	
Date Analyzed	10.13.92	
Selenium (7740)		
Selenium (7740), mg/kg dw	<11*F65	
% R Post Digestion Spike (CL 75-125 %)	79 %	
Date Analyzed	10.14.92	
Thallium (7841)		
Thallium, mg/kg dw	<5.7*F65	J
% R Post Digestion Spike (CL 75-125 %)	44 %	
Date Analyzed	10.13.92	

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44967-1	LSS-1 (3-3.75')	10-08-92	GMQ020

PARAMETER	44967-1
Mercury (7471)	
Mercury (7471), mg/kg dw	0.046
Date Analyzed	10.14.92
Phenolics, Total Recoverable (9065)	
Phenolics,Total Recoverable, mg/kg dw	<0.45
Date Analyzed	10.14.92
Cyanide (9011/9012)	
Cyanide, Total, mg/kg dw	<1.1
Date Analyzed	10.15.92

MEMORANDUM

TO: Laurie Musiker

FROM: John Burke

DATE: November 2, 1992

SUBJECT: Data Review, Monsanto Chemical Company, John F. Queeny Facility, St. Louis, Missouri (Project No. NY02110).

One sample was collected on October 8, 1992 and submitted to Savannah Laboratories and Environmental Services, Inc., for analysis. The sample was labelled LSS-1 (3-3.75 ft). The samples were analyzed for the priority pollutant list volatile organic compounds, semivolatile organic compounds, pesticides/PCB organic compounds, metals and cyanide using USEPA SW-846 methods.

ORGANICS

The organic data were reviewed according to the "Laboratory Data Validation Functional Guidelines for Evaluating Organic Analyses", February 1, 1988 revision, as modified for USEPA Region VII. The data package is a Geraghty & Miller Level III package. This package does not include raw data.

1. Technical Holding Times and Preservations

A. Although no technical holding time criteria have been established for soil sample analyses for volatile organic compounds (VOCs), the holding times for soil samples set in the quality assurance project plan (QAPP) have been met for the sample. The aqueous trip blank which accompanied the sample was analyzed within seven days of collection.

B. Although no technical holding time criteria have been established for sample extractions, the extraction holding time of 14 days set in the QAPP was met for the extractable organic analyses. The sample was analyzed within 40 days of extraction.

2. GC/MS Tuning

All volatile and extractable organic GC/MS tunes and mass calibrations were within quality control limit requirements for bromofluorobenzene (BFB) and decafluorotriphenylphosphine (DFTPP).

3. Initial and Continuing Calibration

A. The initial calibration average response factor (RF) for instrument MSA and the continuing calibration RFs for the two calibrations of instrument MSB were below 0.05 (0.03648, 0.03849, and 0.04278, respectively) acrolein. All other volatile and all semivolatile extractable compounds had RF values above 0.05. Acrolein was not detected in the sample or its blanks, therefore, all acrolein results have been qualified as unusable (I).

B. The aqueous VOC initial calibration of instrument MSA had one compound, acetonitrile, with a percent relative standard deviation (%RSD) above 30% (47.157%). The continuing calibration had one compound, 2-chloroethxyl vinyl ether, with a percent difference (%D) above 25% (80.69%). Since these compounds were not detected in the trip blank, qualification of the data is not necessary.

For the soil VOC initial calibration of instrument MSB, all %RSD values were <30%. The following compounds and %D values above 25% for the continuing calibrations of instrument MSB:

Date: 10/15/92

Compound	%D
Methylene chloride	25.31
Acrolein	47.39
trans-1,2-Dichloroethene	29.05

Date: 10/16/92

Compound	%D
Dichlorodifluoromethane	37.44
Acrolein	41.52

Since these compounds were not detected in the sample, no qualification of the data is necessary.

The initial semivolatile calibration of instrument MSD had %RSD values above 30% for 2,4-dinitrophenol and benzidine (41.286 and 62.772). The continuing calibration associated with the sample analysis on October 14, 1992 and the following compounds with %D values above 25%:

Compound	%D
N-Nitrosodimethylamine	58.42
bis(2-Chloroisopropyl)ether	39.76
Hexachlorocyclopentadiene	35.52
2-Nitroaniline	34.73
Tetrachlorophenol	36.69
4-6-dinitro-2-methylphenol	27.86
Benzidine	72.38
3,3'-Dichlorobenzidine	32.33

Since these compounds were not detected in the sample, no qualification of the data is necessary.

5. Blanks

A. The reported results for all method blanks were non-detects for all volatile and extractable organic analyses. No data have been qualified due to method blank contamination.

B. One trip blank was analyzed for VOCs. No compounds were detected in the trip blank, therefore, no qualification of the data is necessary.

6. Surrogate Recoveries

Surrogate recoveries were within control limits for all VOC and extractable organic analyses.

7. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

MS/MSD analyses were performed the sample LSS-1 (3-3.75 ft). One volatile compound, trichloroethene, had a low percent recovery (%R) value (61%). All other recoveries were within QC limits. All relative percent difference values (RPD) met QC limits. One pesticide/PCB compound, gamma-BHC, reported a high %R value (136%). All other %R values were within QC limits. All RPD values met QC limits. Qualification of the data based on the VOC and pesticide/PCB MS/MSD analyses is necessary.

The semivolatile recoveries for pentachlorophenol were 0% for both the MS and MSD analyses. The 2,4-dinitrotoluene MS recovery was below QC limits (25%) and the pyrene MS recovery was above QC limits (160%). The RPD values for 4-nitrophenol, pyrene, and 1,2,4-trichlorobenzene were high (83%, 39%, and 28%). It is the opinion of the

reviewer, that the pentachlorophenol result in the sample be qualified as unusable (I). No other results require qualification.

8. Compound Identification and Quantitation

Since no raw data was required to be supplied by the laboratory, a check of the compound identification and quantitation was not possible.

9. Summary

A. The initial calibration average RF and the continuing calibration RRS were below 0.05 for acrolein. All acrolein results have been qualified as unusable (I).

B. The semivolatile matrix spike recoveries for pentachlorophenol were 0% for the MS and MSD analysis. The pentachlorophenol result in the sample has been qualified as unusable (I).

INORGANICS

The inorganic data were reviewed according to the "Laboratory Data Validation Functional Guidelines for Evaluating Inorganic Analyses" July 1987 revision, as modified for USEPA Region VII. The data package is a Geraghty & Miller Level III package. This package does not include raw data.

1. Technical Holding Times and Preservation

All technical holding times and preservation of the sample were within the quality control requirements.

2. Initial and Continuing Calibration

The initial and continuing calibration requirements were met.

3. Blanks

The initial calibration blanks, continuing calibration blanks, and preparation blanks did not have positive inorganic results reported.

4. ICP Interference Check

All analytes contained int he ICP interference check sample were within quality control limits.

5. Laboratory Control Sample

All laboratory control samples percent recoveries met QC limits.

6. Duplicates

The duplicate RPD values were within QC limits for all compounds except silver. The silver RPD was 36%. Since silver was not detected, no qualification of the data is necessary.

7. Matrix Spikes

The matrix spike recoveries were low for antimony, chromium, nickel, silver, arsenic, and thallium (53%, 71%, 74%, 46%, 69%, and 43%, respectively). The positive results for chromium, nickel, and arsenic have been qualified as estimated (J). The matrix spike recoveries for lead were above 125%. The lead value has been qualified as estimated (J).

8. ICP Serial Dilution

All analytes met ICP serial dilution quality control requirements.

9. Summary

The matrix spike recoveries for antimony, chromium, nickel, silver, arsenic, and thallium were below 75%. The lead matrix spike recoveries were above 125%. All results for these metals have been qualified as estimated (J).